

## REMARKS

This is a response to the Office Action dated December 14, 2006. The present application was unintentionally abandoned for failing to respond to the Office Action because until recently, Applicant was unaware of the Office Action and unaware that the application had become abandoned. After making a reasonable inquiry, I have determined that the abandonment and the entire delay in responding to the Office Action was unintentional. A petition to revive the application is being submitted with this response.

The above amendment amends the specification to update references to related patent application and to correct errors and improve clarity of the application. No new matter is added.

Claims 1-20 were pending in the above-identified application when last examined. Claims 1-17 were rejected. Claims 18-20 were objected to.

Claims 7-8 and 15-16 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. As to claims 7 and 15, the Office Action states that the "specification does not describe how the system is configured in a feed-back loop." In response, claims 7 and 15 are amended to remove the references to a feed-back loop. Claims 8 and 16 are canceled. In view of these amendments, Applicant requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

Claims 2-8 and 10-16 were rejected under 35 U.S.C. § 112, second paragraph. In particular the rejection indicated that claims 2 and 10 were unclear in regard to how a third waveguide is coupled to the first waveguide in view of the illustrated connections of the optical switches in Figs. 8C and 9. This response amends the claims to refer to an optical switching system rather than specifically reciting connections to first and second switches. In view of these amendments, Applicant requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 112.

Claims 1 and 9 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Pat. No. 5,402,256 (Spanke) in view of U.S. Pat. Application Pub. No. 2001/0010739 A1 (Takiguchi). Applicant respectfully traverses the rejection.

Independent claim 1 distinguishes over Spanke and Takiguchi at least by reciting, “at least one semiconductor laser configured to issue subnanosecond optical pulses defining a periodic pulse train; ... and an optical switching system coupled to direct pulses from the semiconductor laser ... depending on timing of the pulses relative to prior pulses returned from the optical timing system.” Spanke is directed to moving a light pulse from one time slot to another. Spanke does not teach or suggest a system that switches pulses depending on timing relative to a return of a prior pulse through an optical timing system. Takiguchi describes code division multiplexed access using optical signals and similarly fails to teach or suggest a switching system that directs pulses according to the relative timing of prior pulses returned from a timing system.

Independent claim 9 distinguishes over the combination of Spanke and Takiguchi at least by reciting, “operating an optical switching system to direct pulses from the semiconductor laser through the first optical waveguide or the second optical waveguide depending on timing of the pulses relative to prior pulses returned from the optoelectronic timing system.” As noted above, Spanke and Takiguchi fail to suggest operating an optical switching system according to the timing of new pulses and prior pulses returned from an optoelectronic timing system.

For the above reasons, Applicant requests reconsideration and withdrawal of this rejection under 35 U.S.C. § 103.

Claim 17 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Statutory Invention Registration No. H1626 (Kersey) in view of Takiguchi. Applicant respectfully traverses the rejection.

Claim 17 distinguishes over Kersey and Takiguchi at least by reciting, “at least one semiconductor laser configured to output a train of optical pulses at a rate defining a first frequency; ... the pulses received at the pulse detector and the signal from the pulse detector have a second frequency that is a multiple of the first frequency, the multiple depending on the number of segments of the first optical waveguide.” Kersey and Takiguchi whether considered separately or in combination fail to teach or suggest producing a signal having a

frequency that is a multiple of the frequency of a pulse train from a laser, particularly where the multiple depends on the number of segments of a waveguide.

Kersey is directed to a code division multiplexing system that employs multiple optical paths separated by integer multiples of a bit period for determination of the correlations of a coded bit stream with a pseudorandom code. Kersey fails to teach or suggest producing signal with a frequency that is a multiple of an input frequency. For example, the separations of the optical paths in Kersey are full periods of the bit frequency, so that bit values are thus shifted in time without changing the frequency.

Takiguchi is also directed to code division multiplexed access using optical signals and similarly fails to teach or suggest multiplying a frequency by a multiple that depends on the number of segments of a waveguide as recited in claim 17.

Accordingly, claim 17 is patentable over Kersey and Takiguchi, and Applicant requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103.

Claims 18-20 were objected to as dependent upon a rejected claim but were indicated as allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 18-20 remain in independent form, but Applicant requests reconsideration and withdrawal of the objection to claims 18-20 at least because claim 17 is patentable for the reasons given above.

New claims 21-23 depend from claim 17. Applicants requests allowance of claims 21-23 for at least the reason that claim 17 is patentable.

In summary, claims 1-20 were pending in the application. This response amends claims 1, 2, 5-7, 9, 10, 13-15, and 17-20, cancels claims 3, 4, 8, 11, 12, and 16, and adds claims 21-23. For the above reasons, Applicant respectfully requests allowance of the application including claims 1, 2, 5-7, 9, 10, 13-15, and 17-23.

Respectfully submitted,

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